

characterized by concentration, the other going off to the articulated type by extension. In fishes, the *osseous* have the strong *endo-skeleton* of Mammalia, while the *cartilaginous* have the feeble *endo-skeleton*, compensated by a tough integument, the analogue of the *exo-skeleton* of the Articulata. And, as an example from the vegetable kingdom, the Professor finally noticed the parallel groups of *Leguminosæ* and *Rosaceæ*, orders so truly parallel, that though easily distinguished by habit and non-essential characters, the true line of distinction between them was not made out until investigated by the profoundest of botanists, Mr. Robert Brown, where in the one the *exo-skeleton* in the fruit is developed at the expense of the *endo-skeleton*; in the other, there is the concentration of fruit and the development of the *endo-skeleton*; the representation of the two spheres being here manifested in the reproductive system, characteristic of the vegetable kingdom, even as in the animal instances it is chiefly exhibited in organisms devoted to the nervous system, characteristic of the animal kingdom, and progressive manifestation of intelligence.

In conclusion, the Professor gave the following abstract expressions of the leading ideas which he had endeavoured to illustrate in this communication:—

1st. The unity of the transformations and combinations of individual animated beings, with a view to physiological ends serving the species.

2nd. The harmonious duality pervading the arrangements of the animal and vegetable kingdoms.—*Athenæum*, No. 904.

#### GEOLOGICAL SOCIETY.

Jan. 22, 1845.—The following communications were read:—

“Geological Features of the country round the Mines of the Taurus.” By W. W. Smyth, Esq.

The mines described in this paper appear to be worked in great masses rather than beds or veins. They consist of two, one containing ores of copper, and the other argentiferous ores of lead worked for silver. The former at Arghaneh Maden is worked in igneous and altered rocks in the neighbourhood of Diarbekr, the average annual supply being about 3500 tons of ore, producing about 380 tons of copper, but it is thought that the return of metal from the ore might easily be doubled. There are several mines of silver and lead worked at Kiebban Maden, the proportion of silver being about an ounce or an ounce and a half per hundred pounds. About 900 lbs. weight of silver are produced annually, and a small quantity of lead. The geological date of the formations in the Taurus seems to be, in most cases, that of the cretaceous period, but there are also some metamorphic rocks of more ancient origin.

“On the newer Coal Formations of the Eastern part of Nova Scotia.” By J. W. Dawson, Esq.

The paper was an appendix to a communication made last year before the Geological Society, and completed the account prepared by the author of the Carboniferous Formation. The paper also contained a notice of some footmarks observed in the sandstone, which were considered by the author to be those of a bird. In an appendix

a notice was given of the junction of the Carboniferous and Silurian rocks at a locality called M'Cara's Brook.

Feb. 5.—A paper was read "On Raised Beaches and the Shells found in them, occurring on the coast of Essex near Walton." By J. Brown, Esq., of Stanway.

The object of this paper was to direct attention to the fact, that low raised beaches exist on this part of the eastern coast, and that they contain fossils, not only marine but freshwater, and confined to a small number of species, though individuals are very numerous. It was also the wish of Mr. Brown to bring these raised beaches into comparison with the beds called "Till" in the Clyde valley.

A paper was next read "On the Geology of the vicinity of the Wollondilly River, in Argyle County, in the colony of Sydney, New South Wales." By the Rev. W. B. Clarke.

The district described by the author is chiefly occupied by igneous rocks, upon which sedimentary rocks of the carboniferous period repose unconformably. The igneous rocks consist of granite and syenite, of porphyries, basalt and trachyte. They pass into and occasionally intersect one another, and are traversed by numerous dykes of igneous rocks of various kinds. The sedimentary rocks are not less violently disturbed, and have become greatly altered in every place where they have been brought into contact with the granite.

A communication was also made by Dr. Fitton, "On the Beds of the Lower Greensand of the Isle of Wight."

Dr. Fitton, after describing the general structure of the back of the Isle of Wight, alluded to the numerous fissures or *chines* found in these localities. He also described the different beds of the lower greensand, and mentioned the fossils most characteristic of each of them. He concluded by alluding to some of the fossils from the Neocomian beds of the Continent, and mentioned the fact that these foreign strata are strictly contemporaneous with the lower greensand of England.

## MISCELLANEOUS.

### FALCO ISLANDICUS.

A SPECIMEN of the Iceland falcon (*Falco Islandicus*) was shot near the North Tyne last week. It was a young male bird of the last year. This species was for a long time considered identical with the Gyr falcon of Greenland, until the difference was pointed out by Mr. J. Hancock, during the week that the meetings of the British Association for the Advancement of Science were held in Newcastle\*. It is a very rare species in England, few instances of its capture being on record. In Iceland it appears to be not very uncommon during the summer months, where it breeds, but its equatorial migrations do not generally bring it so far south. The flight of these birds is powerful in the extreme. Montagu reckons that of the peregrine falcon (which is a closely-allied species to the present, but smaller) to be 150 miles an hour. At this speed, the distance from Iceland to this country would be easily performed. The present bird, which

\* Mr. Hancock's paper will be found at p. 241, vol. ii. of the 'Annals.'